

Enabling the effective conservation and management of natural resources and within Montserrat's Centre Hills



Montserrat Centre Hills Project

Centre Hills and the wildlife of Montserrat: finding a way forward

Since 1995, major volcanic activity has destroyed much of Montserrat's natural environment. Today, the Centre Hills are home to the largest intact area of forest remaining on Montserrat. It is the last viable enclave for most of the island's wildlife, including those of global conservation concern such as the critically threatened Montserrat oriole, galliwasp lizard, 'mountain chicken' frog and an endemic orchid. The Centre Hills also provide essential environmental goods and services to the people of Montserrat. They contain the main water catchments on the island and provide protection from soil erosion, landslides and flooding during severe weather events.

Problems

The Centre Hills are under increasing threat as the island's infrastructure is rebuilt in the north. The reduction in available land is placing increasing pressure on Montserratians to convert previously natural areas for agriculture and housing. Additionally, the overharvesting of some species; presence of invasive species (eg rats and pigs); soil erosion; and poor condition of trails and access points to natural areas have contributed to habitat fragmentation, habitat degradation and declines in

Students enjoy a tour round the Botanic Gardens



populations of some threatened species. Tourism and development in general can also threaten the environment if not carried out in a sustainable manner.

The Centre Hills Project activities relate to six main areas of work.

An assessment of socioeconomic values of land use within the Centre Hills will advise policy makers about these critical factors. The primary socioeconomic uses of the Centre Hills at present are tourism and agriculture, and many visitors to Montserrat spend at least some time walking on the trails within the Centre Hills. Upgrades to the trail system will improve the recreational amenities that the island offers guests and residents alike. Dozens of farmers reap crops from the rich soil in lower elevations, and almost everyone enjoys the abundant seasonal fruit crops that the lush rivers and ghauts provide. A small amount of hunting occurs in the area, including the culling of invasive pigs that are encroaching from the volcano exclusion zone to the south. Seeds and other materials are collected for local crafts. An assessment of the socioeconomic values of land use within the Centre Hills will advise policy-makers about these critical factors.

Coconuts and other fruits are a prized treat



Review and revision of environmental legislation is being conducted, as environmental legislation in Montserrat is outdated and does not reflect recent research findings nor the obligations of regional and international environmental agreements. Stakeholders involved in extensive consultation will be able to provide information and feedback as to how laws and policies can be improved, and improved environmental legislation will be developed that is modern, relevant, and enforceable.

An outreach programme targets diverse audiences, including politicians, teachers, students, farmers, tourists and the general public. Knowledge, attitudes and behaviour relating to the natural environment will be enhanced, resulting in more environmentally literate and responsible citizens.

An extensive assessment of biological resources complements data collected for years by the Montserrat Forestry Department and associated scientific partners. Research has included work with the Montserrat oriole, 'mountain chicken' frog, birds, reptiles, amphibians, plants, bats and insects. Information about threatened species and habitats is critical in determining where human activities have the most negative impact.

There are many natural features to visit



Ecological research into relevant aspects of how the forest functions is another important area of the project. Understanding forest hydrology is one area of interest, another is in measuring the impact of invasive species on wildlife. In particular, rats are suspected of having a major effect on tree regeneration and the breeding capacity of certain species. Understanding these interactions is a critical part of the planning process.

Using Geographic Information Systems (GIS), the project is able to illustrate features and characteristics of the Centre Hills in a way that greatly assists in planning. Being able to combine maps of land use, land ownership, physical features and biological resources of the area can help to identify areas of potential conflict between humans and the natural environment. Data collected and integrated into the national GIS system will have many uses both within the project and in the wider community.

The integrated approach to conservation and natural resource management involves all levels of society, from political leaders and technical experts, to those working in the Centre Hills to the general public. In this way, the interests of both wildlife and people will be considered and included in an effective management strategy.



Andrew McRobb (RBG Kew)

Photos: Front cover – CHP

Produced by the RSPB, the BirdLife partner in the UK.

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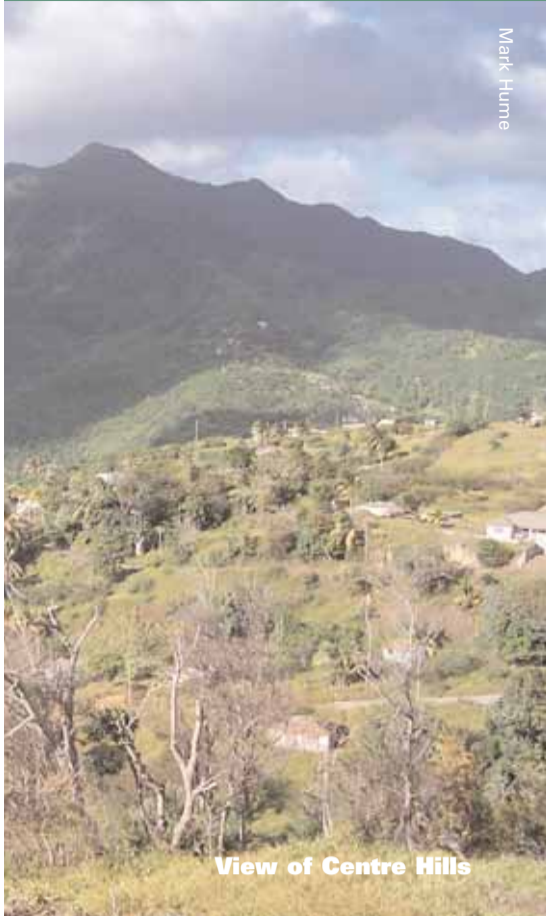
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Additional research and support is provided by:
 GIS Centre, Physical Planning Unit
 Montana State University
 South Dakota State University
 Governor's Office



The project is funded by the Darwin Initiative, and is a collaboration between seven partner organisations, including:

Protect the unique flora and fauna of Montserrat's Centre Hills!



Mark Hume

View of Centre Hills



Andrew McRobb (RBG Kew)

Epidendrum montserratense, endemic orchid



Jurgen and Christina Sohns (FLPA)

Golden oriole



Mark Hume

Montserrat anole



Mark Hume

Mountain chicken



Chris Bowden

Heliconia



CHP

Galliwasp



December 2007

Montserrat Centre Hills Project

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2007 Milestones

- June
 - Management plan refined
- July
 - Teachers writing workshop
 - CHP presented at the SCSCB conference in Puerto Rico
 - Valuation project Launch
 - National Environment Education Committee Launched
 - Centre Hills management committee meets
- August
 - Participatory forest management workshop in Trinidad
- September
 - Species Action Plan for 5 key species launched
 - Centre Hills Management Committee meets
- October
 - Regional OT's Valuation workshop in Cayman
 - Bird surveys
- November
 - Economic valuation perception surveys launched
 - Kew vegetation maps given to GIS unit
- December
 - Second Draft of the Conservation and Environment Management Bill circulated

News briefs

Propagation of the "Priby"

One of the island's endemic plants the *Rondeletia buxifolia* is currently being propagated by Philemon Mappie Murrain at the Montserrat National Trust. The Trust, with help from Kew Gardens hopes to encourage this hedge like plant to be used as an alternative to the non-native *Ficus* which degrades the soil environment. It has a relatively compact habit, likes full sunlight and has small delicate pink-orange flowers.



News briefs



Another Galliwasp Seen

Another rare Galliwasp was seen again this year as part of the six month species action plan survey. To date most of the documented sightings have been in the Cassava ghaut area.

The survey exercise will attempt to see if the galliwasp is in other areas. The survey includes day and night work.

News briefs

Ecological experiment continues

Centre Hills field workers are still trying to assess the numbers and possible impact the rat population has on the ground cover of the forest. There is a theory that many rats could eat the saplings thus creating a less stable forest floor. This could disrupt the future regeneration of the forest. The experiment should continue for another year

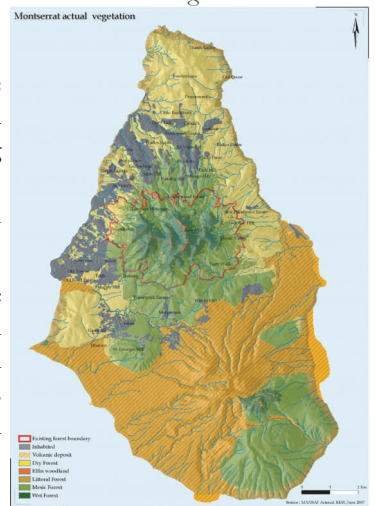


GIS a big part of the work

The CHP team are utilising Geographical Information Systems (GIS) technology in management planning. Working in collaboration with the government's Physical Planning Unit and other partners, the team will fully integrate all new data with existing systems so that other interested agencies may benefit as well. GIS provides layers of information about the

environment. This can be both scientific information (e.g., vegetation maps, spring locations, oriole nesting sites) as well as social data (e.g., land ownership, farms, hiking trails). This information can be combined to give decision makers a clearer visual appreciation of Centre Hills resources and potential conflicts arising from their use.

New Vegetation map produced by RBC KEW in England.



Citizens Guide to the Conservation and Environment Management Bill produced



Your comments are needed!



Overview of the Proposed Environmental Legislation



Ministry of Agriculture, Lands, Housing, and the Environment

Green Spaces are wonderful
Montserrat is treasured for its natural green beauty.
When planning, THINK GREEN

As part of the ongoing outreach and consultative exercise for the new proposed environmental bill, a leaflet has been published to give a brief over view of what the bill is about and what it hopes to achieve.

The legislative review has been on going for over a year now and key inputs from major stakeholders have been considered.

As the second draft is being finalized, this leaflet will compliment it, allowing persons to have a general understanding as to why a review was warranted and what the key changes are. During the Socioeconomic survey in 2006, it was noted that quite a few persons were not aware of the laws that governed the environment

including aspects of agriculture and livestock management. Some of these laws have been in existence since 1932.

Its is hoped that this guide and the availability of the Legislation on the Centre Hills website will raise the appreciation of the importance of the environment and how it impacts on our daily lives.

The guide briefly explains what the law covers, who is responsible for its implementation, the creation of an environmental fund and why is there a need for such a law.

Copies of the guide are available at the Montserrat National Trust, the public library and the department of the environment.

Species Action Plan work shop -field trip

The Department of the Environment held a 'Species Action Plan' workshop where key stakeholders and participants were taken to the Montserrat Port to look at the importation and landing procedures of food to the island. The mountain chicken in Dominica were hit by a deadly fungus and officials are deciding what measures and

protocols can be taken to prevent an outbreak of the fungus here. The mountain chicken is only known to Montserrat and Dominica now after having reportedly lived on 7 of the islands in the lesser antillies in the past.

A management plan is being considered to sustainably manage the frog.



Photo by S. Mendes

Department of the Environment launches environmental education programme

The Department of Environment is embarking on a programme that will raise the awareness of Montserradians to the importance of both local and global environmental issues and strive to change any behaviour that is exacerbating these problems.

The Montserrat Environmental Education Project (MEEP), funded by the UK Government's Overseas Territories Environment Programme, is initiating the Department of Environment's new National Environmental Education Programme.

MEEP will provide a range of activities, media messages and interviews, printed information and a new website, annual green awards and possibly a play with an environmental theme. The Project will be fully underway by January 2008 and run for a year. It will focus on two key areas:

1. Stopping littering, illegal dumping and derelict vehicles, and encouraging composting and reducing waste;

Protecting biodiversity and the island's natural areas.

A National Environmental Education Committee is overseeing MEEP while two subcommittees, one on waste management and the other on

biodiversity, have been established to prioritize and manage their activities, which will be implemented by various partners, including government departments, community groups and schools.

MEEP has already begun with a baseline survey of the current attitudes and behaviour of Montserradians towards their environment. This is providing essential facts on where Montserradians get their information about the environment, what they know or have heard about environmental issues and what impact their actions, both positive and negative, may be having. It will also help to develop appropriate messages and guide activities and information so they will have maximum effect.

The survey is being followed by the creation of a calypso theme song and a jingle, slogan and logo that unify and "brand" all activities and information under the Project. These will be selected through competitions based on their appropriateness, originality and overall appeal.

Some of the planned waste management activities include campaigns on anti-littering and derelict vehicles, greening primary schools, which will include essays, posters and the creation of a Green Map of Montserrat, and the introduction of household composting. An Adopt-a-Road programme may also be initiated in which schools, community groups, businesses and individuals beautify assigned sections of the main road and keep them litter-free.

Some of the planned biodiversity activities include publicizing habitat actions plans on the *gallinwasp*, *mountain chicken*, *yellow-shouldered volcano bat*, *Montserrat orchid*, *Rondelitia* and the *Montserrat oriole*, more extensive promoting of National Tree-planting Day and including information on the island's rich biodiversity on the weekly radio programme *Farmers' Corner*. As well schools will be involved through field trips, the creation of cadres of conservation volunteers and the provision of packages with booklets, power point presentations and other useful information. Teachers will use these packages to enhance their lessons as will forestry extension officers in their school visits. A video may also be produced highlighting the flora and fauna and natural sites of one or more one of the island's hiking trails.

At the end of the 2008 a final event is planned that will include the first annual green awards with prizes in categories such as best green essay, poster and poem, best kept mile of road, best composted and so on, and perhaps the production of an entertaining and humorous play highlighting key environmental issues on Montserrat.



Partners in MEEP include the Department of Environment, the Ministry of Agriculture, Land Housing and the Environment, the Environmental Health Department, the Police Department, Montserrat National Trust, the Centre Hills Project, the Ministry of Education, all schools, Radio Montserrat, Montserrat Utilities Ltd, local businesses and community groups.

For further information on MEEP, please contact Rob Ferguson, Environmental Liaison Officer with the Department of Environment at 491-2075.



The Centre Hills education and outreach programme includes the publication of the newsletter, a website, visits to groups, and education pack and a proposed field guide to the Centre Hills

Species Action Planning for Montserrat

At the end of September 2007, a project to Strengthen Capacity for Species Action Planning in Montserrat was started, funded by the Overseas Territories Environment Programme (OTEP). Montserrat has a number of nationally and globally important species of plants and animals that need urgent conservation action; for many of these, the Centre Hills are their most important remaining refuge. In recognition of this need, the project aims, over the coming two years, to make sure that the capacity exists in Montserrat to develop and implement plans that ensure effective species conservation. Along the way, we will develop so-called Action Plans for five of the most endangered species on Montserrat. Each of these species are endemic to (i.e. found only in) Montserrat, or Montserrat plus one other island; if they are to survive it is here they will have to.

The five species are:

- the mountain chicken (found only on Montserrat and Dominica);
- the Montserrat galliwasp (a lizard, found only on Montserrat);
- the shrub *Rondeletia buxifolia* (found only on Montserrat);
- the orchid *Epidendrum montserratense* (found only on Montserrat);
- the yellow-shouldered volcano bat (found on Montserrat and Guadeloupe, but with a unique sub-species only found on Montserrat). Species Action Plans (SAPs) address the needs of endangered species and of all the people and agencies that have any kind of stake in their conservation. They start with an threatened species and identify as many of the root causes of their endangerment as possible. From these causes, solutions are developed, culminating in a detailed plan of action for the next five years that, if fully implemented, should address these causes of endangerment and result in the species becoming less endangered. In the first



Mountain Chicken (C. McCauley)

week of October, the Department of the Environment (DOE) held a workshop to develop the mountain chicken SAP along with DOE's overseas partners Durrell, RSPB and Kew Gardens, Montserrat National Trust (MNT) and the Centre Hills Project working together with Montserratians representing various interests on the island.

Also in attendance were two experts from a Mountain Chicken project on Dominica, the only other country in the world where this unique frog is found. The attendees from Dominica painted a grim picture of the situation on that island. In 2002 a fungal disease, only affecting frogs but highly contagious amongst all frogs, was found in Dominica. Within a few years, the entire Dominica Mountain Chicken population was almost exterminated and is now at a very low level. This disease could reach Montserrat at any time, carried by tiny tree frogs stowing away in fruit and vegetables, and do the same thing to the Montserrat Mountain Chicken population. The SAP identified this risk as one of the primary causes of concern for the Mountain Chicken on Montserrat. The other most serious threat that was identified at the workshop was unsustainable hunting of Mountain Chickens on Montserrat. The Mountain Chicken population is now a lot smaller than before the volcano and is continuing to decline in areas where hunting is heaviest. Hunting may well be possible in the future, if properly regulated, but for now the workshop felt the Mountain

Chicken population needs some breathing space. The mountain chicken SAP is now in review by all the stakeholders and will be ready to start putting into action by the end of the year. Next we will turn our attention to the Montserrat galliwasp, a lizard believed to be incredibly rare and – so far at least – only ever sighted in one tiny area of Montserrat at Woodlands, and only on a few occasions. It is believed to be nocturnal or, maybe more likely, crepuscular (i.e. active in the fading light of dusk or the partial darkness before dawn). At least one Montserratian has referred to it as 'snake with foot' because of its shiny snake-like body and movements and rather small legs. It is however harmless to people and may be in great danger from non-native predators like rats or cats. At present, British biologist Liz Corry is in Montserrat working with DOE and MNT on night-time field surveys to try to find out over just how wide an area this elusive species can be found. This can be incredibly frustrating work, as sightings are so rare, but one galliwasp has already been found (twice) at the Woodlands location. These surveys will continue until March 2008 when we will assemble another workshop of Montserratian and international experts and stakeholders to review all the findings of the survey before setting to work on the SAP for this species. SAPs for the bat and the plants will follow in 2009.





July 2007

Montserrat Centre Hills Project

Draft Environmental Legislation Under Review

In March, the first draft of the Conservation and Environmental Management Act (CEMA) was presented to the Montserrat public. This important and overdue initiative is funded by the Overseas Territories Environment Programme.

The CEMA aims to reflect stakeholder interests, consolidate existing pieces of environmental legislation, consider recent research findings related to ecological and socioeconomic values of the environment, and modernise the legislation to

conform to internationally accepted standards.

The CEMA includes several mechanisms to promote sustainable natural resource use and management, including the creation of a coordinating management board, a Scientific Council, co-management agreements with persons owning land in protected areas, and an Environmental Fund.

The draft has been the focus of numerous consultations held between March and May. The process has included electronic posting of the draft, technical

reviews with natural resource management agencies, stakeholder workshops, public meetings with agricultural interests and land owners, a radio call-in programme, and legal input from the Attorney General's Chambers.

A revised draft of the legislation will be presented to stakeholders for validation in early August, following which it is anticipated that the Minister of Lands, Housing, and the Environment will be presented in Executive and Legislative Councils.

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Milestones Jan-Jun 07

January

- CHP staff participate in MNT workshop about multilateral environmental agreements

February

- CHMC meeting
- JNCC familiarization visit

March

- First draft of new environmental legislation circulated
- First draft of Biodiversity Assessment report circulated
- Forest boundary corrections approved by Executive Council
- OTEP grant awarded for economic valuation work
- Darwin End-of-Year report completed

April

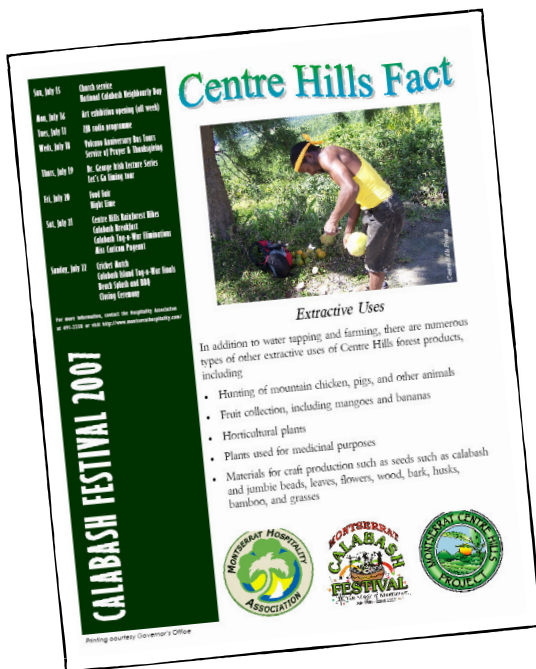
- CHMC meeting
- Stakeholder consultations re: draft legislation

May

- CHP staff participate in MNT strategic planning workshop
- Economic Valuation Project consultants and local research team recruited

June

- CHP staff receive training in facilitation methods
- Forest monitoring workshop



Calabash Festival posters

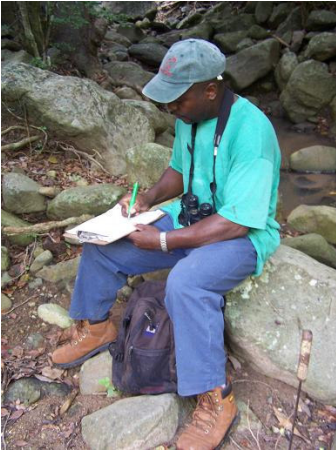
We have recently joined forces with the Calabash Festival planning committee in order to promote knowledge about the Centre Hills.

A series of 15 posters were produced which advertise the second annual Calabash Festival and to showcase a particular value or issue pertaining to the Centre Hills. The posters were placed at various public locations around Montserrat and in Antigua.

During the Calabash Festival week, Radio Montserrat will be posing quiz questions to the public based on the Centre Hills facts contained in the posters. T-shirts, pencils, and other prizes will be offered.

The CHP and forest rangers will also be offering two hikes during the Festival, both of which will culminate in a picnic breakfast at the Jack Boy Hill visitor facility on July 21st.





Forest Ranger James "Scriber" Daley engaged in forest monitoring as part of the annual bird census



Montserrat's endemic orchid, Epidendrum montserratense

Environment Studies

The Ministry of Agriculture, Lands, Housing, and Environment (MALHE) is working with Matt Morton of the Durrell Wildlife Conservation Trust (DWCT) to coordinate a two-year OTEP-funded project that aims to enhance the status of several threatened species in Montserrat.

The project will strengthen capacity for Species Action Planning (SAP). Key activities include:

- Production of SAPs for five highest priority species
- Establishment of 'Species Interest Groups' to execute actions identified in the plans
- Implementation of a customised database in Montserrat to manage and interpret ecological data.

- Provision of training of persons in Montserrat in relevant SAP skills

Additionally, a number of conservation actions will be undertaken for the selected species in order to build momentum for the plans and to start the recovery of the most critically endangered species.

Five species have been selected as case studies for the project as they are vulnerable to a variety of threats and will therefore require a range of conservation actions. These include the mountain chicken, galliwasp, yellow-shouldered volcano bat, and two endemic plants (the *Rondeletia* and an orchid).

International partners, including DWCT, the Royal Botanic Gardens-Kew, and the Royal Society for the Protection of Birds, will work

alongside MALHE and the Montserrat National Trust to implement this project.

* * * * *

In addition to this effort, the Department of Environment, with assistance from Dr. Geoff Hilton of the RSPB, recently hosted a workshop to discuss long-term monitoring of the natural environment.

In order to measure the impact that various natural and human activities have on the environment, it is necessary to establish baseline data on various environmental characteristics, and then to re-evaluate those characteristics repeatedly over time to determine if there has been any change in status. This information helps to advise decision-makers about appropriate conservation and other management activities.

News Briefs

Curriculum workshop

The CHP, in collaboration with the RSPB, will be hosting a three-day curriculum development workshop for teachers from July 23-25. Participants from all of the primary schools will work to develop environmental classroom resources for teachers from the lower primary school.

The workshop will be facilitated by the RSPB's Barrie Cooper. Barrie is no stranger as he visited Montserrat in 2003 to work with teachers in the implementation of interactive bird kits.

JNCC visits Montserrat

Tara Pelembe, the new Overseas Territories Officer with the UK's Joint Nature Conservation Committee (JNCC) paid a visit to Montserrat in February in order to become familiar with environmental work in Montserrat.

The JNCC is the statutory adviser to Government on UK and international nature conservation. Montserrat is already benefiting from enhanced relations with JNCC through their extension of capacity-building opportunities (see story page 3).

A new SDP for Montserrat

CHP staff and partners played an active role in recent consultations related to the development of the new sustainable development plan (SDP) for 2008-10. The effort is spearheaded by the Development Unit in the Ministry of Finance. The new SDP aims to consider the needs and opinions of a wide range of interests.

We were in the unique position to be able to reflect the perceptions of many environmental stakeholders that we have spoken to over the past year and a half.

Rat study continues

Two CHP Field Officers continue to work in the Centre Hills forest daily as part of an experiment to investigate the impacts of rats on the flora and fauna of the forest.

Over time, a comparison will be made between areas that have rats and the experimental area where rats have been reduced to measure just how much damage they are doing.

Understanding these impacts will help to advise environmental managers as to the most effective conservation and restoration strategies.



Photos by S. Mendes, CHP

Economic Valuation Work Gets Underway

The CHP has been selected to receive a £49,370 grant from the UK Overseas Territories Environment Programme (OTEP) to undertake an economic valuation study. OTEP is an environmental grant scheme supported by the Foreign and Commonwealth Office (FCO) and the Department for International Development (DfID).

The purpose of the study is to gather information about the economic values of the Centre Hills’ natural resources in order to inform their sustainable use and management. The effort is currently underway and will run through March 2008.

Ecosystems provide a range of vital services to residents of Montserrat. They are often under-invested in and over-exploited because there are no markets that reflect their value.

Economic valuation studies can provide estimates of the true values of ecosystems and

the services they provide, which can be incorporated into policy and decision-making.

Policy-makers would be wise to consider the economic implications of various development strategies as they pertain to the natural environment. Given that many stakeholders are defined by their economic interests, it is logical that this type of data is as critical a component in environmental management as are the biological and ecological data which define the resource itself.

The project’s technical consultants are a team from Van Beukering Consulting of the Netherlands and the Caribbean Natural Resources Institute. International partners will be on Montserrat in late July for the kick-off planning workshop and other consultations.

The project will also employ several persons on Montserrat

over the next nine months as part of the data collection team. Other key local agencies participating will be the Department of Environment, Development Unit, and the Physical Planning Unit.

All of the Caribbean UKOTs will be sharing experiences about the process in a regional capacity-building workshop in October. The regional effort is being coordinated by the Joint Nature Conservation Commission.

Two other Montserrat projects were also approved by OTEP in this round of bidding. One aims to enhance local capacity for developing species-specific conservation plans. The other aims to initiate various environmental education activities aimed at promoting environmentally responsible behaviour among citizens in Montserrat.

Ecosystem services are the transformation of a set of natural assets (soil, plants and animals, air and water) into things that we value.

Some examples include:

- **Pollination**
- **Fulfillment of people's cultural spiritual and intellectual needs**
- **Regulation of climate**
- **Insect pest control**
- **Maintenance and provision of genetic resources**
- **Maintenance and regeneration of habitat**
- **Provision of shade and shelter**
- **Prevention of soil erosion**
- **Maintenance of soil fertility**
- **Maintenance of soil health**
- **Maintenance of healthy waterways**
- **Water filtration**
- **Regulation of river flows and groundwater levels**
- **Waste absorption and breakdown**

Source: Ecosystem Services Project



The Centre Hills Project was part of a team involved in the review and development of a recent publication entitled, “Valuing the Environment in Small Islands - An Environmental Economics Toolkit”. Published by the Joint Nature Conservation Committee, this will be an invaluable resource in the implementation of the Montserrat project. The authors of the toolkit are part of the technical consulting team bringing expertise to the Montserrat community.

The Montserrat Centre Hills... A Poem

I grew up hiking in Montserrat's Centre Hills!!
 Ohh! I have soo many memories and thrills!!
 Hunting for agouti rabbit and mountain chicken, you see!
 Eating soo many fruits, that are up in the tree!
 Mamsiport, mango, guava and more were there!
 Eating them all, without any fear!
 Up in the hills were many a mountain ground,
 with an abundance of crops, so many a type to be found!
 While hiking in these hills, you really have to take care!
 Not to damage our lush forests or litter any where!
 Keeping it pristine for future generations, that will be!
 So Sit for a while!! Listen!! and See!!
 A way up so high in every tree!!
 All the beautiful flowers, exotic birds and bees that are there!
 This tranquil setting, is something we should all share!
 There are so many mountain springs of water to drink!
 Crystal cold water, it's just like getting it from your sink!
 Montserrat's Centre Hills, belongs to everyone of us!
 Yes!! We should definitely make a very big fuss!!
 When we see people polluting and damaging our beautiful hills!!
 Where we had soo many of our childhood thrills!!
 Tourist come from far and wide, to our beautiful emerald isle,
 Just to see and experience our natural tranquillity..
 Oh!! How pristine it is for many miles to see!!
 So when you go in the mountains with your friends, for a hike!
 Or take a ride on your favourite bike!
 Please remember not to pollute!! We must do it right!
 Garbage along our small roads, is a very bad sight!!
 So take along a garbage bag, on your very next hike!
 Protecting our Mountain trails, for all to delight!

Capt. John Howes

Montserrat's Rain Forests Under Siege

Golden petals fall
 And hot ash roughly kisses
 Dying foliage.

 The oriole droops;
 Head tucked under folded wings
 Waiting out the storm.

 Mountain chickens hide,
 Annoyed at ash emitted
 By Madame Soufriere.

 Mother Nature smiles;
 On ash-covered foliage
 She makes soft rain fall.

 Inhale sweet, clean air
 And, in the wild, roosters strut
 Eyeing the fat hens.

 The setting sun sighs.
 In the cleansed forests, all's well,
 And peace reigns once more.

 Tiny tree frogs sing,
 Welcoming the velvet night,
 Soon adorned by stars.

Shirley Spycalla

**Haiku: a traditional Japanese poem composed
 of three unrhymed lines of 5-7-5 syllables.
 Haiku often reflects some aspect of nature.**

December 2006

Montserrat Centre Hills Project

Important steps made at planning workshop

Over 50 persons participated in a successful planning workshop from September 11-15 held at the Montserrat National Trust in Olveston.

There were several informational presentations made throughout the workshop by various partners and consultants, including results of the biological and socioeconomic assessments, ecological research, and preliminary legislative review. A field trip was held on the second day to allow participants a chance to observe some of the key Centre Hills' values and threats in the field. Both large

and small group discussions were employed to bring out the key issues and topics.

It was generally agreed that the following principles should guide management of the Centre Hills:

- Biological and ecological resources should be conserved
- Decisions should be made on sound research
- Resources should be used sustainably
- Stakeholders must be involved in the decision-making and management processes
- Management must be

adaptive and flexible

- When a resource is used, the user must put something back

Specific objectives were sketched out which begin to address policies for extractive uses (such as agriculture), non-extractive uses (such as tourism), monitoring of forest resources, education, and institutional arrangements for management. The details of these management objectives will be developed in greater detail with input from stakeholders such as resource users and managers, land owners, and decision-makers in the coming months.

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Milestones Jul-Dec 06

July

- Stakeholder identification workshop

August

- Public consultations

September

- Planning workshop
- Rat knockdown begins
- Scientific partners visit—Kew, DWCT, RSPB

October

- Socioeconomic report completed
- Preliminary legislative review report completed
- Participation strategy completed

November

- First CHMC meeting
- Leaflet completed
- Rat maintenance and monitoring phase begins

December

- Trail map completed
- Revised airport tourist survey launched



M Hamilton RBC KEW

Some of the participants at the Centre Hills Planning Workshop, September 11-15, 2006



The primary strategy to facilitate equitable participation of all stakeholders in the planning process for the Centre Hills has been identified as the creation of a local management committee with representation from government, civil society, and the private sector.

Who is a stakeholder? Just about everyone!

Government natural resource management agencies

- MALHE (Forestry, Agriculture, Physical Planning Unit)
- Environmental Health

Government agencies benefiting from the Centre Hills

- Water Authority
- Montserrat Tourist Board
- Department of Education
- Disaster Management Coordination Agency

Government and other agencies with key roles

- Legal Department
- FCO/Governor's Office
- Development Unit
- Potential funding agencies

NGOs and CBOs with key interest in the Centre Hills

- Montserrat National Trust
- Community Groups - Cudjoehead, St. Peter's,

WSG10, etc.

- Youth Council
- Christian Council

Academia / education

- MCC & UWI School of Continuing Studies
- Primary and secondary schools
- Union of Teachers
- International scientific community

Resource users

- Hunters
- Farmers Association and any other farmers
- Livestock Association and any other livestock tenders
- M'rat Arts and Crafts Association, other craft producers/collectors of craft materials
- Agri-processors
- Vendors of local produce
- Harvesters of "abandoned" crops

- Medicinal plant collectors and users
- Horticultural collectors
- Wood product users (fish pots, furniture, charcoal, etc.)
- Tourists, hikers, birders

Private sector

- Trail, taxi, tour guides, Taxi & Tours Association
- Hotel, guest house, and villa owners
- Hospitality Association
- Utility companies
- Chamber of Commerce
- Water bottling company

Media

- Radio Montserrat
- Montserrat Reporter
- PTV
- Government Info Service

Individuals

- Private landowners
- Property Owners Association

News Briefs



Trail map produced

In collaboration with the CHP, the MTB has completed a new hiking trail map which will be on sale at a number of locations across the island.

With assistance from volunteer Carrie Howard, the trail mapping exercise was completed with support from the GIS Centre in the Physical Planning Department.

The map depicts nine trails currently promoted for tourism and recreation. A separate wildlife guide booklet is in development which will complement the map.

UKOTCF Conference

Staff and partners of the CHP attended the UK Overseas Territories Conservation Forum conference in Jersey, UK from October 7-12th. Stephen Mendes, Calvin "Blacka" Fenton, Lady Eudora Fergus, and James "Scriber" Daley were on hand to benefit from the proceedings, as well as Janice Panton, the Chief Minister's Office UK Representative.

Lessons learned from work in Montserrat were well received by the 120+ attendees who represented all but one of the UK's overseas territories.

Fundraising never stops

The CHP and partners recently submitted three funding proposals to the Overseas Territories Environment Programme (OTEP) and other funding schemes.

The activities, agreed to be key un-funded priorities, include 1) feral pig eradication, 2) economic valuation of the Centre Hills ecological services, and 3) development of species action plans for key plants and animals.

The results of this OTEP bidding round be known by the end of February 2007

News Briefs

CHP logo launched

A CHP logo competition was held in June. Several creative contributions were made and the judges decided on a piece produced by Studio Tom Tom depicting a view of the Centre Hills from the north, with a heliconia in the foreground.



Research results presented

• The socioeconomic assessment report for the Centre Hills was released in mid November. This comprehensive 107 page report is the culmination of nine months of surveys and research carried out by the staff of the Centre Hills Project.

The forest offers a myriad of uses, be it biological, ecological, cultural, historical, economic, social, spiritual or medicinal.

Resource managers need to balance these uses versus sustainability so that it can be amicably utilised by all stakeholders. The report hopes to shed light on the perceptions of the general public and the activities that occur in and around the Centre Hills.

• A preliminary report has been released that has commented on the state of Montserrat’s environmental legislation. This report was done by renowned West Indian Attorney at Law Christine Toppin Allahar as part of an initiative of the Centre Hills Project and funded by OTEP.

The report will be circulated among stake holders and feed back given before the Attorney progresses with a proposed draft environmental legislation. The draft will be vetted by the Local Attorney General’s Office and the public before a final draft is written and presented to Council in June of 2007

• Extensive GIS mapping was carried out on the forest boundary effectively enabling it to be fully digitised and layered

onto a map. Landowner parcels are now more easily identifiable and accurately shows where their land lies in relation to the boundary. A list of landowners whose land falls within the forest boundary was generated.

• Comprehensive reports describing the status of flora and fauna of the Centre Hills are still in draft stage. It is hoped that these documents will be made available to the general public in the near future. Much of the content of the reports mentioned will play an integral role of the decision making processes of the newly formed Centre Hills Management Committee .

Copies of these reports will be on the Centre Hills web site.

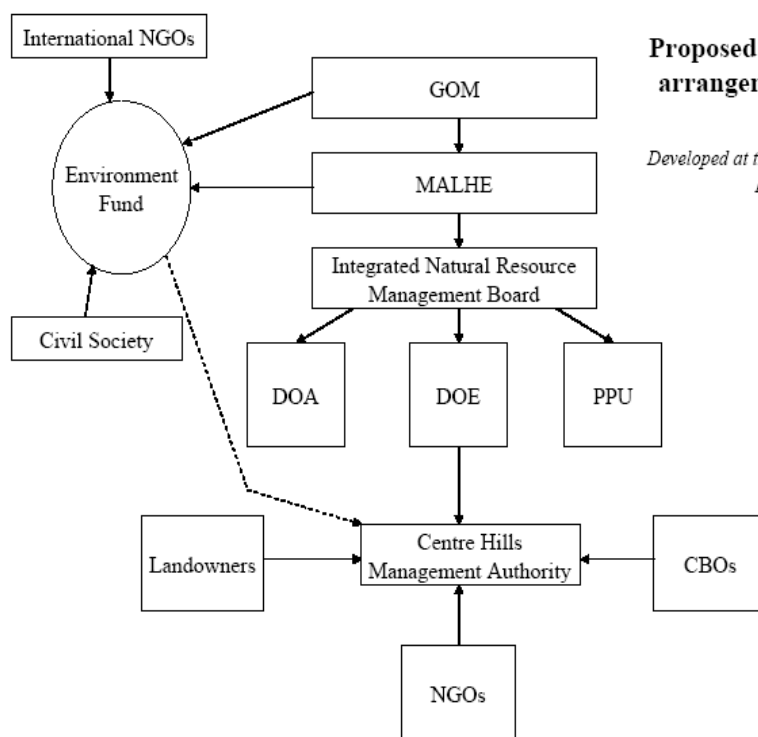
“A socioeconomic assessment is a way to learn about the social, cultural, economic and political conditions of people, groups, communities, and organizations. There is no fixed list of topics that are examined in a socioeconomic assessment, however the most commonly identified topics are: resource use patterns; stakeholder characteristics; gender issues; stakeholder perceptions; organization and resource governance; traditional knowledge; community services and facilities; market attributes for extractive use; market attributes for non-extractive use; and non-market and non-use values.”

(Bunce, et al., 2000)

Draft institutional framework and vision

Two important outputs of the September workshop were a proposed Centre Hills management arrangement, (right) and a vision statement (below). Both are in draft form and are open to public comment.

“The Centre Hills National Park is the heart of the green island of Montserrat – a biologically rich and diverse forest supporting unique plants and animals – secure for enjoyment, education and study. The government and people of Montserrat share ownership and management of these valuable resources to support sustainable populations of species, environmental services and local livelihoods for the benefit of present and future generations.”



Proposed institutional arrangements for the Centre Hills

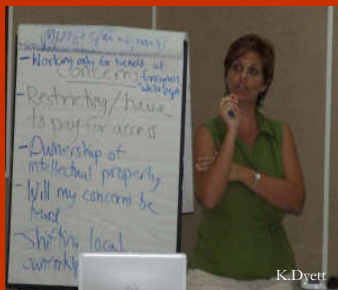
Developed at the September 2006 planning workshop

The Centre Hills Management Committee Formed

The Director of the newly formed Department of the Environment is Mr. Gerard Gray.

The first Centre Hills Management Committee meeting was held on November 22nd 2006.

The Education Recreation and Outreach sub committee meeting was held on the 23rd November 2006



Both meetings were facilitated by Nicole Leotaud of the Caribbean Natural Resources Institute CANARI

One of the recommendations coming out of the September workshop, was to have a more centralized and locally based management structure for the Centre Hills Project. While appreciating the fact that the Centre Hills Project is essentially a funded entity with a limited lifespan, it was generally agreed that activities can go beyond the March 2008 project closure and could be co-managed by a core group of stake holders that will include landowners, non government organizations, community based organizations, the Ministry of Agriculture, Montserrat National Trust and the Montserrat Tourist Board.

Co-management is a relatively new concept in Montserrat

Roles and Responsibilities of the CHMC

- Produce a strategy to educate the public on the value of the Centre Hills resources
- Approve policy decisions as it pertains to the development of the Centre Hills
- Management of the proposed National Park
- Advise the planning department
- Ensuring local management and technical capacity is built.
- Ensure that the natural resources are sustainably managed

The Centre Hills Project submitted a proposal to OTEP for a study to be done on an



Economic Valuation of the Centre Hills ecological services.

This project will greatly assist in the future development strategies the CHMC has for the Centre Hills

Involving the public in decision-making

As part of the CHMC's work plan, sub committees were set up to assist with various aspects of the management plan. One of the key groups formed was the Education Recreation and Outreach Committee. This group is responsible for collating all the information on the Centre Hills and bringing it to the general public for discussion and feedback. As the proposed management for the Centre Hills is of a participatory nature, it is imperative that all corners of Montserrat's society and the wider diaspora become

aware of the valuable resources. The group is responsible for identifying key organizations and clubs on island and to develop effective strategies to inform and engage useful opinions that could be taken into consideration in forming the Management Plan. One of the key players in this education process will be the GIS unit. Their capacity for creating layered maps to relay information will greatly assist in the dissemination of information.

Other sub committees of the CHMC are

- Tourism
- Legal
- Management

These groups should meet initially in early December





June 2006

Montserrat Centre Hills Project

OTEP Funds Legislative Review Process

The Centre Hills Project (CHP) has been granted £21,690 from the UK Overseas Territories Environment Programme (OTEP), which is sponsored by DFID and FCO. The grant supports the development of legislation enabling effective management of biodiversity in Montserrat.

The process includes four components: 1.) review of existing local, regional, and international legislation; 2.) consultation with stakeholders to identify gaps in existing frameworks and to advise policy change, 3.) revision of environmental legislation to meet needs identified, and 4.)

outreach to raise awareness of the need for legislative review and to solicit participation in the consultative process.

The legal review process is a critical component of the Centre Hills Project as there is a great need to protect public and private interests with regard to the environment. Existing legislation pre-dates the volcanic crisis. It does not consider recent data which relates to human interests such as agriculture, and ecological interests such as species and habitats of special concern.

Existing legislation does not include best practices recommended by regional and international environmental

agreements under which Montserrat is obligated.

The Caribbean Natural Resources Institute has been contracted to assist with the public consultation process. Members of the general public, natural resource managers, landowners, persons involved in tourism and agriculture, community groups, and businesses will be invited to take part in the process of advising decision-makers about environmental management priorities..

The legal review and drafting will be carried out by Mrs. Christine Toppin-Allahar, an environmental lawyer also based in Trinidad.

“Ash in de Air” - Impacts on the Centre Hills

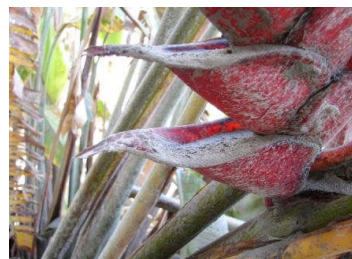
A prime example of the fragility of the Centre Hills ecosystem was brought into focus when the Soufriere Hills volcano reminded the island’s residents that it is still very much active.

During the early hours of May 20th, most of the 90 million cubic meters of pulverized dome material that spewed up to 55,000 feet into the air was deposited on the eastern and southern slopes of the Centre Hills. Significant heat and gas from nearby pyroclastic flows

also affected the area.

The heavy ash decimated the forest, breaking branches and in some cases suffocating feral livestock that roam the slopes. The ensuing ash fall on the evening of the 20th and 21st brought caustic acid rain, stripping the vegetation bare. What was once lush forest in the Corbett Spring area was razed as if a nuclear bomb had been detonated in its midst.

Forestry and CHP staff made
(continued on back page)



The national flower serves as a water source for Montserrat orioles and other animals, but ashfall clogs the flower’s natural wells

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Milestones Jan-Jun 06

January

- Galiwasps sightings
- Reptile/amphibian surveys (9 weeks)
- Tourism and agriculture surveys launched

February

- Plant surveys
- GIS training
- Land ownership map completed
- BBC visit

March

- Project Steering Committee meeting
- General public survey launched

April

- Ecological research launched
- Trail counters deployed
- Darwin Year 1 report submitted

May

- Global Strategy for Plant Conservation Workshop
- Plant surveys
- Website launched

June

- Bat surveys
- BirdLife Caribbean workshop, Puerto Rico



Ecological Research on Rats in the Forest



CHP Field Officers Jervaine Greenaway and Calvin "Blacka" Fenton monitoring bird populations in the forest

Do rats have an impact on the forests ecosystem? Dr. Geoff Hilton, Senior Research Biologist for the Royal Society for the Protection of Birds, is of the opinion that the lowly rat may indeed have a substantial effect on the Centre Hills ecosystem beyond the predation of oriole nests.

To this end, Dr. Hilton, with input from DWCT, Kew, and CHP staff, have come up with an elaborate series of experiments and monitoring protocols to test this theory.

Three 11-hectare test areas have been demarcated. There is one experimental area with two control areas just north and south of it.

Within the experimental area, the frequency, size, and estimated populations of rats will be assessed by placing

tracking tunnels at strategic points. These tunnels will have an ink pad and paper to record the footprints (which makes for interesting art!) It has already been determined that both the black and brown rats live in the forest.

It is thought that the tender shoots are eaten by rats and could affect future growth patterns of certain species of plants. Rats are also known to eat bird eggs and chicks, as well as reptiles and amphibians.

Quadrats will be set up in both the experimental and control areas to determine the regeneration rates of plants. Pitfall traps to collect insects have been laid out to determine the prevalence of insects. Line-transects will be used to monitor reptile and amphibian populations, though

mountain chickens will be monitored separately along ghauts. Nesting birds will be monitored by extensive visual observation.

Finally, some rats will be trapped and dissected to determine seasonal feeding patterns of rats. Genetic samples will also be taken.

It is hoped that the findings of this two-year experiment will provide convincing data to illustrate the extent of the rat problem in the Centre Hills. This knowledge will be used to advise local authorities in the development of a management strategy to address the problem, potentially crafting an effective rat control programme which may include targeted parts of the Centre Hills and possibly some farming areas as well.

News Briefs

GIS Work

The CHP has secured the services of a global information systems (GIS) volunteer who will spend a month in Montserrat this summer. Local staff and partners will benefit from shadowing the highly qualified expert in both field data collection and office-based data analysis and map production.

All footpaths within the Centre Hills will be documented using this accurate digital technology, as well as the extent of agriculture and other human activity. GIS and its extensive mapping capacity is a useful tool in environmental planning.

News Briefs

Galliwasp found



The critically endangered endemic Montserrat galliwasplizard was sighted several times during surveys led by the Durrell Wildlife Conservation Trust from January to March. The rare and elusive galliwasplizard is known only around the Cassava Ghaut area, and has been sighted only a few times over the past decade.

News Briefs

Trail counters deployed

Three infrared trail counters, purchased from the Canadian-based TRAFx, have been installed along three trails in the Centre Hills. The devices, camouflaged and hidden from view by CHP staff, monitor foot traffic in certain areas, which will help planners to determine trail use and therefore trail maintenance and interpretation needs.



Website launched

At long last, the CHP's website is up and running! The site was developed in collaboration with the Montserrat-based web development company, MyEnovations.

Information is available about the project, sponsors, and partners; links to relevant sites; photo gallery; documents available for download; and contact information.

If there is something else that you would like to see on the website, please email a staff member with your suggestions and/or comments!

www.malhe.gov.ms/centrehills

September Planning Workshop Takes Shape

The CHP partners and staff will be hosting a management planning workshop from September 12-15, 2006 to be held at the Montserrat National Trust in Olveston. Everyone in Montserrat is invited to participate, particularly those with special interests in Centre Hills - including natural resource managers, farmers, tour guides and taxi drivers, land owners, educators, and others. The aim of the workshop is to develop

the outline of a management plan for the Centre Hills, specifically to:

- Present results and evaluate lessons learned from socioeconomic and biological assessments conducted in Project Year 1
- Develop a common vision and management objectives for the Centre Hills
- Identify actions needed to achieve the objectives

- Establish an implementation framework for agency cooperation

The CHP plans to engage an external consultant to facilitate the workshop, thereby freeing up all local partners to participate more fully.

Residents of Montserrat will hear more about the workshop in the coming months, and everyone will be actively encouraged to take part.

The overall goal of the September planning workshop is to begin the development of a Centre Hills management plan, which is derived through public consultation and which takes into consideration the interests of both people and wildlife.

Montserrat Hosts Regional Plant Workshop

From May 14-19, Montserrat and the CHP were fortunate to host a major regional forum to discuss the Global Strategy for Plant Conservation (GSPC). The workshop was funded by the UK's Department of Environment, Food, and Rural Affairs (Defra).

The workshop brought together delegates from around the Caribbean, including Bermuda, Jamaica, Cayman Islands, Belize, St. Kitts, Antigua, Dominica, St. Lucia, Tobago, Trinidad, and the host Montserrat.

Addresses were given by H.E. the Governor, Mrs. Deborah Barnes-Jones; Mrs. Annie Dyer-Howe, Minister of Agriculture, Lands, Housing, and Environment; and that Ministry's Permanent Secretary, Mr. Eugene Skeritt.

The GSPC is an initiative from the Convention on Biological Diversity (CBD). It sets out specific targets that participating countries around the world have agreed to meet by 2010. The ultimate long

term objective of the GSPC is to halt the loss of plant diversity. The five main objectives are to understand and document plant diversity, conserve plant diversity, use plant diversity sustainably, promote education and awareness about plant diversity, and build capacity for the conservation of plant diversity.

Although Montserrat has not signed onto the CBD as yet, the core work of the Centre Hills Project served as an apt background to demonstrate how some of the targets of the GSPC are being met. However, there is much more that Montserrat could and should be doing. It is hoped that Montserrat will become a signatory to the CBD and the GSPC in the near future.

The Forum was ably facilitated by Dr. Colin Clubbe of the Royal Botanic Gardens - Kew, Stella Simiyu of Kenya who represents the CBD Secretariat and Botanic Gardens Conservation International (BGCI), Dr. Chris Cheffings

from the UK's Joint Nature Conservation Council, and Didier Dogley from the Seychelles, a small island nation which has already written and is implementing a GSPC strategy.

The delegates were given a tour of the Centre Hills and made aware of how quickly ecosystems could be lost, not only by the actions of man but by the ravages of nature, namely the Soufriere Hills volcano. This demonstrated how important it is to conserve some of the plant diversity "ex situ", that is outside of its natural habitat. It also drove home the point that there is a need to have protected areas to preserve fragile communities and conserve species *in situ*, i.e., within their natural habitats.

An added bonus to the workshop was having other visiting scientists from Kew Gardens available who were able to demonstrate the importance of herbarium and seed bank collections in plant conservation.



Rondeletia buxifolia, one of Montserrat's three known endemic plants – found nowhere else in the world except Montserrat - is a conservation priority



Workshop participants listen intently on a field visit to Fogarty Spring

Montserrat to be Featured in BBC Series

A. McRobb, RBG-Kew



The MNT's botanic garden will feature endemic and threatened



Ash cloud behind Jack Boy Hill
May 20, 2006



CHP and Forestry staff making a somber walk through the decimated Corbett Springs area

The BBC's popular television series "A Year at Kew" has recently come to Montserrat to cover plant-related activities of which CHP partners from the Royal Botanic Gardens, Kew are leading. In addition to looking at the day-to-day operations of the UK's premier botanic garden, the series is now looking also at global plant conservation efforts in which Kew staff are engaged.

The BBC team is focusing on both the *in-situ* forest plant conservation efforts taking place within the Centre Hills, as well as the *ex-situ* efforts of the Montserrat National Trust (MNT) botanic gardens development project. There are clear links between conservation of plants in their

natural habitat and the propagation of important plant species in botanic gardens for conservation of genetic diversity and to provide environmental education opportunities to the public.

The MNT is currently utilising OTEP funds to develop a botanic garden that will feature plants that have significance for their scientific, aesthetic, medicinal, economic, and educational value. This will include endemic and other native plants that are being surveyed as part of the Centre Hills Project.

A team from the BBC was in Montserrat in February to take footage of the early stages of the botanic garden

development at the MNT, as well as to film plant documentation efforts in the Centre Hills that are a part of the overall biodiversity assessment. They plan to return in September to review the progress of both activities.

In addition to the video portion of the "A Year at Kew" project, a book is being developed concurrently, and should be published later in the year. A writer visited Montserrat in April to gather supplementary information for the written piece, which will be complemented by photos taken by Kew staff photographer Andrew McRobb during his visit last November.

(continued from front page)

an initial assessment of the damage on May 30th, walking across the island through the affected areas from Waterwork to Pelican Ghaut and were encouraged to see that despite all the vegetation loss, there were already signs of some significant regeneration. But it will be a while before the affected area becomes a healthy forest once again.

It was interesting that one of the only trees not to experience massive leaf-shedding was the *Casuarina*, an invasive tree that was once planted for erosion control throughout the tropics before scientists discovered the

negative impacts it has on native flora and fauna.

The ashfall will most certainly hamper the nesting opportunities for the Montserrat oriole and other birds. The mountain chickens are also affected as the ghauts, where they nest, were scoured clean by heavy mudflows. In fact, a mountain chicken bleeding from a gash in its leg was found on the banks of the Daley River. A listless and seemingly blind, ash-crusted green lizard was found in the Molyneux area. However, healthy orioles were spotted making nests near to the gigantic fig tree in Fairy Walk area.

The northern and western slopes of the Centre Hill, while still somewhat ashy, were not nearly as affected and experienced much less defoliation. This somewhat more promising prospect led to the decision by Scott Pedersen and his team from South Dakota State University to come and carry out their annual bat surveys in late June.

One of the mudflows took out major public supply water pipes leading from Killiecrankie Spring, reducing the island's supply by 75% for several days until temporary repairs could be made.

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January 2006

Montserrat Centre Hills Project

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2005 Milestones

June

- Bird surveys
- Reptile/amphibian surveys
- Project launch
- Steering Committee meets

July

- Bat surveys
- Bird presentation at SCSCB meeting in Guadeloupe

August

- Insect surveys

September

- Project Manager starts on Montserrat
- Steering Committee meets

October

- Field Officers appointed
- Bird surveys

November

- Kew Gardens team visits
- Plant surveys start

December

- Counterpart Project Manager appointed

An Overview of the Project

The Centre Hills Project (CHP) was launched in June 2005. It aims to enable the people of Montserrat to conserve the Centre Hills. Since volcanic activity has devastated most of the southern forests and mountains, the Centre Hills have become the last remaining habitat for numerous threatened species. These include the Montserrat oriole, “mountain chicken” frog, galliwasp lizard, and the endemic Montserrat orchid.

In addition to supporting ongoing ecological assessment work, the project aims to inform decision makers and partners about the social and economic interests of the

Centre Hills. An assessment of values and attitudes will provide information that will be useful in minimising potential human conflicts.

Investigating the impact of activities such as agriculture, hunting, and tourism, as well as gathering information about land ownership, are important aspects of this effort as well.

An outreach programme will target diverse audiences of resource users, decision makers, and the general public. A legislative review process will ensure that legal frameworks are adequate to effectively address conservation and protected area management.

Much of the project is funded

by the Darwin Initiative, a biodiversity conservation scheme of the UK Government’s Department of Environment, Food, and Rural Affairs. Additional funding and in-kind support comes from the six partner agencies.

The project is coordinated by the Royal Society for the Protection of Birds. Other partners are the Montserrat National Trust; Montserrat Tourist Board; Ministry of Agriculture, Lands, Housing, and Environment; Durrell Wildlife Conservation Trust; and Royal Botanic Gardens-Kew. Additional research is contributed by teams from South Dakota State University and Montana State University.

GIS a Big Part of the Work

The CHP team are utilising Global Information System (GIS) technology in management planning. Working in collaboration with the government’s Physical Planning Unit and other partners, the team will fully integrate all new data with existing systems so that other interested agencies may benefit as well. GIS provides layers of information about the

environment. This can be both scientific information (e.g., vegetation maps, spring locations, oriole nesting sites) as well as social data (e.g., land ownership, farms, hiking trails).

This information can be combined to give decision makers a clearer visual appreciation of Centre Hills resources and potential conflicts arising from their use.



CHP staff and partners examine aerial photos of the Centre Hills



Meet the Team



*Centre Hills Project Staff
(from L to R): Stephen Mendes,
Calvin "Blacka" Fenton, Jervaine
Greenaway, Carole McCauley*

The Centre Hills Project staff are now on board and are based out of the Montserrat National Trust office in Olveston.

Project Manager Carole McCauley is serving an 18-month contract to establish the project on the ground in Montserrat. A dual national of the UK and USA, Carole has experience working on similar environmental projects in Antigua and the USA, and is

close to completing an MSc in Environmental Education from the Florida Institute of Technology.

The rest of the team are Montserratians who are serving contracts through the end of the project in 2008. Counterpart Project Manager Stephen Mendes brings almost 20 years of teaching experience to the project and is excited to meet the challenges of this appointment. Field Officer

Calvin "Blacka" Fenton has been working with biodiversity assessment projects in the Centre Hills for over five years. Field Officer Jervaine Greenaway is a newcomer to environmental work but is already showing great promise as a young conservationist.

The team works closely with staff from partner and other agencies. The public are invited to stop by the office anytime to say hello!

Editorial: We All Need This

"Stakeholders" are people who make direct use of a natural resource as well as people whose actions may affect the resource. This includes individuals, businesses, government agencies, and communities.

"What's all the fuss about? Is the oriole more important than me? Wouldn't this money be better spent on social needs? I have never even been there, so why should I care about the Centre Hills? In fact, where are the Centre Hills?"

From just about anywhere on Montserrat, the Centre Hills are right next to you, above you, all around you. Everyone

is a stakeholder in this process. Even if one has never set foot inside the forest, it still provides goods and services that keep people healthy.

Consider the source of Montserrat's clean drinking water. The quality of the air. The rich soils. The home of the national bird and flower. The paying visitors who come and see such a lush and unique

place. Consider the stunning vistas one sees, is sometimes enveloped in, while driving up and down the island.

Would Montserrat be Montserrat without these things? These plants and animals AND people? We are the caretakers of the land for the time that we are here. Our great-grandchildren deserve this. We need this, all of us.

Biodiversity Assessment

A biodiversity assessment is currently being conducted in the Centre Hills. Durrell Wildlife Conservation Trust, is coordinating this effort, with specific taxonomic expertise provided by international partners.

A network of 28 sample points has been established throughout the Centre Hills,

which were allocated randomly but stratified by altitude to ensure sampling is representative of the range of habitats found within the area. At each sample point, data are being collected on species richness and abundance within a range of taxonomic groups: plants, insects, amphibians, reptiles, birds, bats, and invasive mammals.

Along with historical and ad hoc data collection, we are compiling an inventory of Centre Hills flora and fauna, mapping biodiversity spatial patterns to identify important habitats and sites, and investigating the abundance and distribution of key species. A long-term monitoring protocol will be recommended from this current work.

Photo: A. McRobb



Philemon "Mappie" Murraine of the Montserrat National Trust collects plants with Kew team members Colin Clubbe and Martin Hamilton

Socioeconomic Assessment

The CHP is currently involved in setting up a socioeconomic monitoring programme to formally document the nature and extent of human activity in the Centre Hills.

Socioeconomic information is used to identify trends on social and economic characteristics, human activity, and perceptions about the environment and its management. It can also help to identify sources of human

conflict over resource use and management.

Combined with information gathered in the ecological assessment, this research will inform stakeholder groups, decision-makers, and the general public as to threats and problems in the Centre Hills. It will provide a springboard for seeking solutions and opportunities for more effective use and management of natural resources.

The process can also inform decision-makers about the effectiveness of existing management frameworks from the perspective of people who are affected by these legal arrangements.

Surveys are currently being carried out to measure and describe the extent of human activity and to gauge public perceptions and values about the Centre Hills.

Socioeconomic information relates to the value that people put on a resource. This includes cultural, scientific, medicinal, economic, religious, aesthetic, recreational, and other values relating in some way to our well-being.

Outreach and Education

There is a large education component in the CHP. In particular, there is a strong interest in reducing potentially harmful behavior through an effective outreach programme.

Environmental education focuses not only on enhancing human understanding of the problems and issues in managing natural resources, but also in providing opportunities for people to

participate in decision-making and hands-on experience.

To maximise participation, the outreach programme tailors educational approaches to specific audiences. Targeted audiences include politicians, community groups, land owners, tour guides, farmers, hunters, students, teachers, and the general public.

Educational materials will be

developed, including posters, leaflets, a website, and a field guide. Word will also be spread verbally through radio programmes, television, and community meetings.

Public consultation will be held regularly and often to provide citizens with the opportunity to learn and provide feedback in the development of a management strategy for the Centre Hills.



Field Officer Jervaine Greenaway (centre), along with Forestry Officers James "Scriber" Daley (left) and Lloyd Martin (right) appear on Radio Montserrat to discuss the Christmas biking programme

Legislative Review

Existing legislation for conservation and protected area management pre-dates the volcanic activity that devastated so much of Montserrat's natural environment. It does not consider a wide variety of recent scientific data that pertain to local species and habitats of special concern. It does not address potential

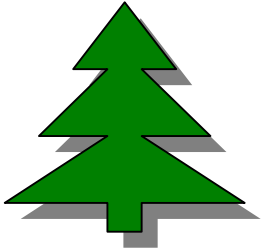
threats from expansion of human activity in the north from resettlement. Existing legislation does not always include "best practices" recommended and/or required by global frameworks under which Montserrat is obligated.

The CHP is currently seeking additional funding to hire an environmental legal consultant to carry out a legislative review,

conduct a needs assessment, and to draft/revise legislation that effectively addresses local environmental needs. Draft legislation will be presented to the Attorney General's Office for review and submission to the Executive and Legislative Councils. There will be extensive public consultation during this process to ensure that all interests are considered.



Christmas Hikes



The Centre Hills Project staff and Forestry Officers put on a series of educational hikes over the Christmas period. These were aimed at getting people into the hills to see the unique

wildlife and habitats first-hand. Persons were given the opportunity to hike the Oriole Walkway, Blackwood Allen trail, and The Cot trail. The hikes were promoted

extensively on Radio Montserrat. Despite it being the Festival season, even the early morning hikes were well attended by people of all ages.

Partners and Staff on the Move



Calvin "Blacka" Fenton (above) recording snake data on a training visit on Antigua's Offshore Islands Conservation Project



Carole McCauley and Sarah Sanders participating in foraging sea turtle monitoring in Anegada, BVI

Guadeloupe

The 15th Meeting of the Society for the Conservation and Study of Caribbean Birds was held in August. Representing the Montserrat Oriole Emergency Conservation Program were James "Scriber" Daley, Calvin "Blacka" Fenton, and Richard Allcorn.

The team gave two presentations. The first, titled "Conserving the Centre Hills Forest: Reducing the Risk of Extinction of the Montserrat Oriole in the Wild", dealt with the conservation research and the future implications for the forest.

The second was a more technical presentation submitted as "Population Census and Monitoring of a Critically Endangered Bird Under Difficult Conditions" reporting on the development and efficacy of the census techniques employed on Montserrat. In an informal evening session, the new DVD, "Searching for the

Montserrat Oriole", was also enjoyed by many.

Anegada, BVI

The RSPB was invited to facilitate a protected area planning workshop on Anegada in the British Virgin Islands in September. Also a Darwin-funded project, the Anegada team is employing a similar approach to management planning as the CHP. Thus it was a logical opportunity for CHP Manager, Carole McCauley, to observe the process and receive some training. She was accompanied by several UK colleagues, including the primary RSPB liaison to the CHP, Sarah Sanders, International Officer for Overseas Territories.

The workshop aimed to bring stakeholders, scientists, and decision-makers together to discuss research findings, human values and interests, and management arrangements in Anegada. A framework for the new management plan was developed, as well as a tentative timetable for

implementation. A similar workshop will be held in Montserrat in September 2006.

Antigua

In December, Field Officers Calvin "Blacka" Fenton and Jervaine Greenaway each spent a week working on the Offshore Island Conservation Project in Antigua.

Hosted by the Environmental Awareness Group and led by Field Officer Ingrid Sylvester, the two participated in the census of the critically endangered Antiguan racer snake on Green Island.

The survey techniques employed are similar to those used to monitor wildlife in Montserrat. Spotting and catching snakes is tricky business, but Jervaine and Blacka were rewarded with the experience of interacting with these extremely rare animals. Snakes were tagged, measured, weighed, and inspected before being released.

Camping overnight is rarely required in Montserrat survey